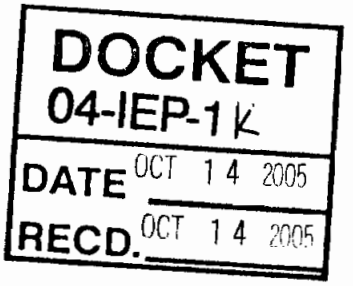
October 14, 2005



California Energy Commission Dockets Unit
Attn: Docket No. 04 IEP 1K
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

Docket Unit:

The Union of Concerned Scientists submits the enclosed comments on the 2005 Committee Draft Integrated Energy Policy Report. Comments are due on October 14, and this submission was also made electronically today. We appreciate the opportunity to provide the Commission with these comments. Thank you.

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Comments of the Union of Concerned Scientists
on the *2005 Committee Draft Integrated Energy Policy Report*

Docket Number 04-IEP-1K

Submitted by:
John Galloway, UCS

The Union of Concerned Scientists ("UCS") appreciates the opportunity to comment on the California Energy Commission's ("CEC") "Committee Draft 2005 Integrated Energy Policy Report" ("Draft Report," "IEPR"). The Draft Report consolidates and integrates a wide range of analyses on California energy issues, and will serve as a useful and valuable tool for addressing California's energy challenges in the face of demand growth, rising fuel costs, and the need to improve reliability and environmental performance. UCS commends the Commissioners and staff for producing a thorough compendium on the state of California's energy sector and for providing critical recommendations for modernizing our energy infrastructure and maintaining sensitivity to broader concerns such as climate change. UCS' comments on the report focus on transportation fuels (Chapter 2), advanced coal technologies (Chapter 4), and renewable resources and the Renewable Portfolio Standard program (Chapter 6).

Comments on Chapter 2 – Transportation Fuels

UCS supports the goal of diversifying California's transportation fuels and reducing the demand for petroleum as a means of improving air quality, reducing global warming emissions, reducing dependence on petroleum, and moving towards a sustainable transportation system. The strategies that California chooses to reduce petroleum demand must be protective of the environment, especially with respect to air and water quality. Many of the recommendations in the Transportation Fuels section of the IEPR are consistent with this approach; however, there are some areas of concern.

Renewable Fuels

One strategy of concern is establishing renewable fuel standards individually for both diesel and gasoline, specifically, requiring a minimum blend level of biodiesel and ethanol, respectively. This approach does not account for harm to air quality that may result from such standards and restricts flexibility. We recommend that targets for increasing the use of alternative fuels, with criteria for renewable content or carbon

emissions, be established statewide in place of a mandated percentage of renewables in gasoline and diesel blends. To achieve these renewable content targets, both low blends and high blends of renewable fuels that do not harm air and water quality could be utilized.

In addition to replacing the diesel and gasoline renewable fuel standards with the above suggestion, a comprehensive life-cycle analysis of fuels must be completed. Performing an analysis which looks at the energy and environmental impacts of extraction, production, and use of transportation fuels is vital for moving California towards the goal of petroleum reduction, improved air quality, and reduction of global warming emissions. Carrying out the goals of AB 1007 as a partner with CARB should be a strategy included in the IEPR.

E-85

We are supportive of the recommendation to establish a process to expand the use of E-85 in California. There is some concern that auto manufacturers may not be readily able to produce flexible fuel vehicles ("FFVs") with zero evaporative emissions. A recommendation for evaluating the barriers of certifying FFVs with zero evaporative emissions should be included.

Adding Petroleum Reduction as a Criterion for Carl Moyer Program

The Moyer Program has been extremely successful at reducing emissions from diesel engines, which continue to be a major source of air pollution in the state. The primary goal of the Moyer Program must remain the reduction of smog-forming nitrogen oxides and toxic particulate matter from diesel engines. The recommendation to include petroleum reduction in the Carl Moyer Program should be modified to convey that petroleum reduction should be included as a secondary consideration to emission reductions.

Pollutant Portfolio Approach and the Predictive Model

The recommendation for applying a "pollutant portfolio" for alternative fuels and incorporating this approach into the predictive model is unclear. The current predictive model used to evaluate fuels analyzes a number of emission types, not solely NOx emissions. Many areas of California continue to struggle to meet federal and state air quality standards and must reduce certain types of pollutants. Should fuels that increase these pollutants be allowed throughout the state, regions may have an even harder time meeting air quality standards.

In addition to these concerns, a procedure for updating the predictive model is already in place, and includes a public process. This update process is currently underway at CARB. The recommendation for a "pollutant portfolio" approach should be removed from the IEPR.

Comments on Chapter 4 – "Other Electricity Supplies: Advanced Coal Technologies

UCS supports the adoption of a "greenhouse gas performance standard" in the 2005 report, and appreciates Chairman Desmond's proposal on this issue in his letter to Commissioners Geesman and Boyd dated September 22, 2005. UCS also appreciates the Chairman's attention to the need for accurate greenhouse gas ("GHG") inventories and consideration of GHG emissions in long-term resource procurement. However, UCS believes that any role for offsets should be carefully defined, strictly limited, and closely monitored, especially initially. The Chairman invited comments on the use of emissions offsets, and "standards and verification systems…to govern offsets used for compliance purposes." UCS is troubled by the proposal for unlimited use of ill-defined offsets, prior to the establishment of mandatory limits on GHG emissions, thereby allowing California electricity providers to procure electricity from conventional coal plants that do not meet the highest standards for reducing criteria pollutants and capturing and sequestering global warming emissions. Additionally, allowing offsets to meet the standard would dampen the signal to the market for investment in new and innovative technologies for clean generation.

UCS believes any offsets that may be allowed in the future under a climate change policy, particularly one that regulates emissions from coal power plants and establishes a cap on emissions with reductions over time, should be verifiable, enforceable, permanent, and be sourced from projects that provide truly incremental global warming emissions reductions. The categories of offsets should be carefully defined and limited initially to those with the strongest verification protocols. Offset projects must provide a benefit to the atmosphere that is equivalent (or at minimum, highly comparable) to a direct emissions reduction, and should meet basic standards developed in well-respected offset programs, of which there are many examples.[1] To the extent that land use categories are eligible, these standards should include strong principles such as adherence to sustainable forestry and agriculture practices. There should be geographical boundaries to the program, in order to facilitate verifiability and to maximize local and regional co-benefits. Offsets may also deliver local and regional co-benefits that are not realized if offsets are allowed from outside the country, as they are through programs such as the Chicago Climate Exchange.

The rules and guidelines for carbon credit trading and offset programs should be made widely available to the public. Public transparency with regard to how greenhouse gas reductions are calculated, reported, verified, and audited significantly increases the integrity and credibility of such a program; otherwise, there is no way to verify independently that reporting accurately portrays performance. Any further deliberation of the use of offsets to meet California's GHG reduction targets should take place in a multi-agency context that includes the CalEPA, the Public Utilities Commission ("PUC"), Air Resources Board, and other agencies represented in the Climate Action

[1] Examples include the Greenhouse Gas Protocol for measurement and verification developed by World Resources Institute and World Business Council for Sustainable Development, the Clean Development Mechanism of the Kyoto Protocol, California Climate Action Registry protocol for forestry, and the Climate, Community and Biodiversity Alliance Standards for land management projects.

Team. Recommendations in the next IEPR should follow the guidance developed through that process.

Three commenters during the October 6 and 7 hearings described a portfolio approach for meeting the greenhouse gas performance standard, whereby renewables and other measures (such as energy efficiency) could be used to effectively offset increased GHG emissions from "clean coal."[2] UCS believes energy efficiency and renewables will play a critical role in reducing GHG emissions under a system of GHG limits and reduction targets such as a cap and trade program. However, in the absence of such policies, UCS opposes inclusion of such a portfolio approach to meeting the GHG performance standard in the IEPR because it does not address the fundamental need to *achieve net reductions in carbon emissions*. Individual resources should be required to meet the standard, not an average portfolio of resources. Total, and not relative, reductions in greenhouse gases are the metric for the targets set by the Governor.[3] Also, this is a new issue that was not vetted during the course of public hearings. A substantial change of this nature in the report's recommendations on greenhouse gas reduction strategies should be subjected to public input and debate.

As previously submitted in response to the CEC's "Electricity Issues and Policy Options" workshop held on July 7, UCS offers that any new coal-fired generation must adhere to the following principles:

a) Because of fuel cycle impacts and range of environmental risks, Energy Efficiency should always remain top resource priority, followed by Renewable Energy, and finally fossil generation using the cleanest, best available technology.

b) To the extent that coal is utilized, the best available technology should be used and the long-term carbon risks explicitly considered and allocated. Conventional coal technology should be considered as posing unacceptable environmental and economic risks.

c) UCS has not performed a detailed coal technology analysis, but it generally appears to us that IGCC with CCS is the best available coal technology at this time.

The Draft Report discusses two technologies that may be available in the near- to mid-term: "ultra-supercritical" combustion and "supercritical circulating fluidized-bed combustion." The Draft Report refers to those technologies as "clean," but states they "lack the same opportunity for CO_2 capture offered by IGCC." While those technologies may reduce non-GHG emissions, they still produce more GHGs than new combined-

[2] Committee Hearing Transcript, October 6, 2005; *see* comments of Bill Edmonds, Pacificorp, p. 45 at 4-10; comments of Alvin Pak, Sempra Energy Global Enterprises, p. 131 at 2-4; comments of Gary Ackerman, Western Power Trading Forum, p. 92 at 5-22.

[3] Executive Order S-3-05 by the Governor of the State of California, June 1, 2005.

cycle natural gas plants. Allowing development at this time of coal technology that lacks the best opportunities for CO_2 capture could significantly increase carbon reduction costs for decades in the future.

There were a few public comments at the October 6 hearing expressing that carbon capture and storage ("CCS") will not be commercially employed in the near-term. Although there already are large-scale demonstration projects in North America and abroad, there is indeed uncertainty about when CCS will be commercially available on a very large scale. That uncertainty is all the more reason why California should not commit to electricity from new coal plants unless they include CCS. Otherwise, a delay in large-scale commercial CCS availability could mean the state could be locking in decades of additional carbon emissions and increasing the cost of reducing them later.

UCS is particularly troubled by the lack of analysis in the Draft Report demonstrating the need for long-term baseload resources that should be served by coal. The state appears to embark on a path of purchasing "clean coal" for its own sake, without explicit and quantifiable demonstration of need. CEC staff – and none of the other stakeholders in this proceeding – have access to the utility-specific data necessary to analyze this need. Thus, the draft report unfortunately does not benchmark the utilities' long-term need against scenarios of resource choices to meet those needs.

The lack of scenario planning is becoming endemic in the long-term planning process, and signals a lack of commitment to true integrated resource planning. UCS filed joint comments with Environmental Defense and Natural Resources Defense Council in this proceeding describing how the investor-owned utilities' 2004 long-term plans filed at the PUC did not provide information about different fuel types, beyond energy efficiency and renewable energy.[4] No comparisons between resource options that could be used to fill future needs were included in the plans. As such, the portfolio cost, risk, and emissions information provided in the plans was rendered essentially meaningless. Not one of the utilities' long-term procurement plans provided adequate information for the PUC to judge whether the plans minimized economic and environmental impacts and risks.

The Draft Report neither identifies these deficiencies nor does it make recommendations to remedy them. Without rigorous analysis of the different resource types that the utilities may see in their competitive solicitations or may consider building (i.e., natural gas, conventional coal, IGCC, etc.), the utilities' plans will not contain the information needed to adequately characterize and assess the costs, risks, and environmental impacts associated with each resource type. Without such assessments the utility plans could not be used to achieve the underlying goal of integrated resource planning, which is to optimize each utility's portfolio with respect to overall costs, risks, and environmental impacts.

Such deficiencies in the utility resource plans make it exceedingly difficult if not impossible for the CEC and the PUC to have the information they need to determine whether resource plans and electricity forecasts they are approving are consistent with

[4] Comments of Environmental Defense, Natural Resources Defense Council, and Union of Concerned Scientists on the *2005 Integrated Energy Policy Report* "Proposed Electricity Resource and Bulk Transmission Data Requests", filed in Docket Number 04-IEP-01-D, December 22, 2004.

meeting California's established greenhouse gas reduction targets and other environmental goals. Nor will the State know enough to be able to determine whether utilities' proposed plans signal an early warning that those targets will not be met. If the utilities propose to meet such need with specific coal resources without those resources first being forecast in the long-term planning process, the State will have lost its opportunity to develop an alternate course of action for meeting future unmet resource needs that does not compromise the emissions reduction targets. This is very troubling in light of a recent PUC statement regarding emissions from increased coal generation:

> "The carbon dioxide emissions from just three 500 MW conventional coal-fired power plants would offset all of the emissions reductions from the IOUs' energy efficiency programs and would seriously compromise the State's ability to meet the Governor's GHG goals."[5]

Certainly going forward the State should collect information from the utilities regarding the environmental performance of their portfolios, particularly for new long-term investments, with respect to specific fuel types. The PUC endorsed this approach in its statement on a greenhouse gas performance standard.[6] However, the PUC has not considered GHG performance in reviewing utility procurement contracts.[7] UCS believes the IEPR should recommend that both the CEC and PUC go beyond mere information collection and require scenario planning that includes portfolios of varying resource types.

Comments on Chapter 6 – Renewable Resources for Electricity Generation

UCS appreciates the Draft Report's exploration of the barriers to the increased use of renewable energy in California, and agrees with the conclusion that "additional work and legislative action is needed to overcome barriers facing [renewable] resources and ensure that the state's RPS goals are met."[8] UCS anticipates that the CEC, the PUC, utilities, renewable developers, and other stakeholders will work together diligently in the coming months to address these barriers.

The Draft Report identifies one barrier, the lack of long-term purchase agreements for power, which does not fit with RPS program experience to date. The utilities have signed contracts for over 1700 MW of renewable resources since 2002, with contract options that could add as much as 1000 MW. The report should acknowledge that the utilities are actively soliciting long-term power purchase agreements with renewable resources.

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[5] CPUC, "Policy Statement on Greenhouse Gas Performance Standards," adopted October 6, 2005.
[6] *Id.*
[7] While new procurement of long-term resources must include valuation of carbon emissions at $8 per ton, no contracts have been submitted to the PUC where such an analysis has been reviewed or approved. The review and approval processes for new natural gas-fired power plants procured by SCE and SDG&E did not take GHG emissions into account.
[8] Draft Report at p. 90.

As a member of the utility procurement review groups, UCS has been closely involved in the RPS solicitation process that the IEPR draft criticizes for lacking in transparency. UCS shares the CEC's interest in achieving more transparency in procurement processes, and believes this interest must be balanced with the need to protect market-sensitive information. Opening every detail of the utilities' RPS ranking methodology could easily result in bidders tailoring their bids to result in the most favorable ranking and not necessarily proposing the most favorable price to the utility and its customers. UCS understands the need for the CEC to make well-informed decisions regarding the allocation of Supplemental Energy Payments ("SEPs") to renewable projects priced above the Market Price Referent. However, there is little value of adding another, quite possibly redundant, layer of regulatory review onto the utilities' solicitations that could serve to second-guess the PUC's review process.

The Draft Report suggests that renewables could be procured in all-source solicitations absent any use of Public Goods Charge awards, with costs being contained through "reasonableness review." This "reasonableness review" merits further description, which the Draft Report does not provide. What benchmark would the PUC establish if not a proxy value like the Market Price Referent? The second option presented, then, seems really no different from the first, which is to use a fixed price benchmark akin to the benchmark used in the 2002-03 interim procurement phase. It is likely that a substantial number of submitted bids would hover around the pre-established, disclosed benchmark, which does little to foster competition at the lowest costs.

UCS is intrigued by the suggestion to transition the RPS toward an auction for subsidy funds, and would be more enthusiastic if the Draft Report had explained how an auction is preferable to the current system. The award of SEPs must be linked to the signing of long-term contracts in order to yield financing and construction of new renewables. Bidders price their product based on assured funding streams. In an auction, the bidder has no idea what price he or she will get from the utility because there is no existing long-term contract. The price of such a contract is subject to negotiations undertaken in the solicitation process. How much does a bidder ask for in the auction? If the assumption is that an auction fixes the price of the SEP award and the utility pays the difference, the cost to the utility then becomes uncertain.[9] The Market Price Referent effectively establishes a price cap on the utility rate-base, and thus was the very feature of the RPS that obtained utility support for the RPS legislation. Removing cost certainty will certainly draw opposition from the utilities, who are the prime movers of the RPS in purchasing the renewable energy so vital to the State's supply needs. UCS remains open to discussing an auction, and believes this recommendation in the IEPR should be softened to suggest further dialogue among stakeholders rather than recommend a complete redesign of the RPS program at this time. Any process to "investigate options for developing an alternative RPS framework" should include a diversity of stakeholders, not just the CEC and PUC as the Draft Report recommends, as there is no consensus as to the structure or detail of an alternative framework.

[9] This situation is the reverse of the current SEP allocation process, where utility costs are fixed by the Market Price Referent and the SEP award is variable, subject to possible cap by the CEC.

UCS appreciates the Draft Report's exploration of the topic of unbundled renewable energy credits ("RECs"). However, UCS is concerned that there is currently not an adequate system in place to track and verify RECs even under the proposed limited allowance. The report describes the tracking function performed by the now-defunct Customer Credit Program, suggesting that "system" could be employed for limited REC trading. However, even limited trading is likely to generate more transactions (and thus more administrative effort) than in the Customer Credit Program. Does the CEC have adequate staff to devote to this intensive tracking effort, including any necessary redesign of that system? The Western Renewable Energy Generation Information System ("WREGIS") is intended to provide a REC tracking and verification function, but will not be operational until at least 2007. UCS is even more concerned about the recommendation that "full REC trading" include the Western Region, as the Draft Report stops short of stating that energy must be delivered into the state. Without that requirement, it is unclear how Western Region resources provide all the benefits of the RPS program articulated in Section 399.11 of the statute.

UCS agrees with the draft's recommendation that more flexible delivery requirements should be allowed in the program. The PUC has already adopted such rules in Decision 05-07-039, which implements a proposal by UCS, TURN, and supported by other parties, that allows delivery outside utility service areas. If the CEC believes the PUC should make more explicit that inter-utility trades and the use of shaped products are allowed under the flexible compliance mechanism, UCS would support such a clarification.

The draft report should be updated in its final form to reflect the outcome of the CPUC's decision on compliance rules for ESPs and CCAs, and also to note the completion of SDG&E's solicitation and filing by advice letter of its solar thermal and biogas projects.

UCS appreciates the opportunity to provide comments on the 2005 Draft Report, and looks forward to the CEC's further revisions of and deliberations on the report as it moves toward adoption.